

## A NEW SPECIES OF *Deinopsis* MacLeay (ARANEAE: DEINOPIDAE) FROM INDIA

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### ABSTRACT

A new species of *Deinopsis* MacLeay, namely *D. scrubjunglei* sp. nov., from Tamil Nadu, India is being described along with notes on its natural history.

**Key words:** Net casting spider, *Deinopsis*, India

### INTRODUCTION

The Genus *Deinopsis* is known by 46 nominal species (Platnick 2014), however generic revision will recognize approximately 30 valid species (Coddington *et al.* 2012). The genus has a worldwide distribution ranging from the tropics to the sub tropics (Coddington *et al.* 2012). The genus is commonly referred as net casting spiders”, other names include “ogre-faced spiders” and “gladiator spider” (Leong and Foo 2009). They are easily recognized by their extremely large posterior median eyes. No other families have similar eye arrangement while Salticidae have enlarged anterior median eyes, *Tetragnatha* (Tetragnathidae) have elongated legs but no enlarged eyes (Paquin *et al.* 2010).

In India, only one species *D. goalparaensis* Tikader and Malhotra 1978, was described from Goalpara District, Assam. It is known by the female specimen only, the male is unknown. The present paper is based on the examination of specimens collected as part of a spider diversity study in the Madras Christian College campus which encloses a scrub jungle with an expanse of 365 acres on the outskirts of Chennai city.

### MATERIALS AND METHODS

Live specimens were photographed using Nikon DSLR D60, 18-55mm (Reversed for Macro photos) stored in 70% alcohol and later examined using a stereoscopic microscope (NIKON SMZ 1000). Male palps were examined and female genitalia were excised using fine surgical scalpel. The epigyne was macerated in 10% KOH. The type specimens will be deposited in the Zoological Survey of India, Regional Centre, Chennai. Descriptions are based on fresh specimen unless or otherwise mentioned. All measurements are in mm (millimeters), leg measurements are given as [total length (femur + patella + tibia + metatarsus + tarsus)].

Abbreviations used: ALE - anterior lateral eyes, AME - anterior median eyes, PLE - posterior lateral eyes, PME - posterior median eyes. AME-AME - mutual distance between eyes. MOA – median ocular area, GPS - global positioning system, E - embolus, MA - median apophysis, CO - copulatory opening, CD - copulatory ducts.

### TAXONOMY

Genus *Deinopis* MacLeay

*Deinopis scrubjunglei* sp. nov.

(Figs 1-20)

**Type material:** Holotype male, Scrub jungle regions, Madras Christian College, Chennai, Tamil Nadu, 5.xii.2013 (GPS 12.920287° N, 80.123523° E, 32 m), John Caleb T.D. Allotype: female 22.iv.2014 data same as holotype, John Caleb T.D and Karthy.

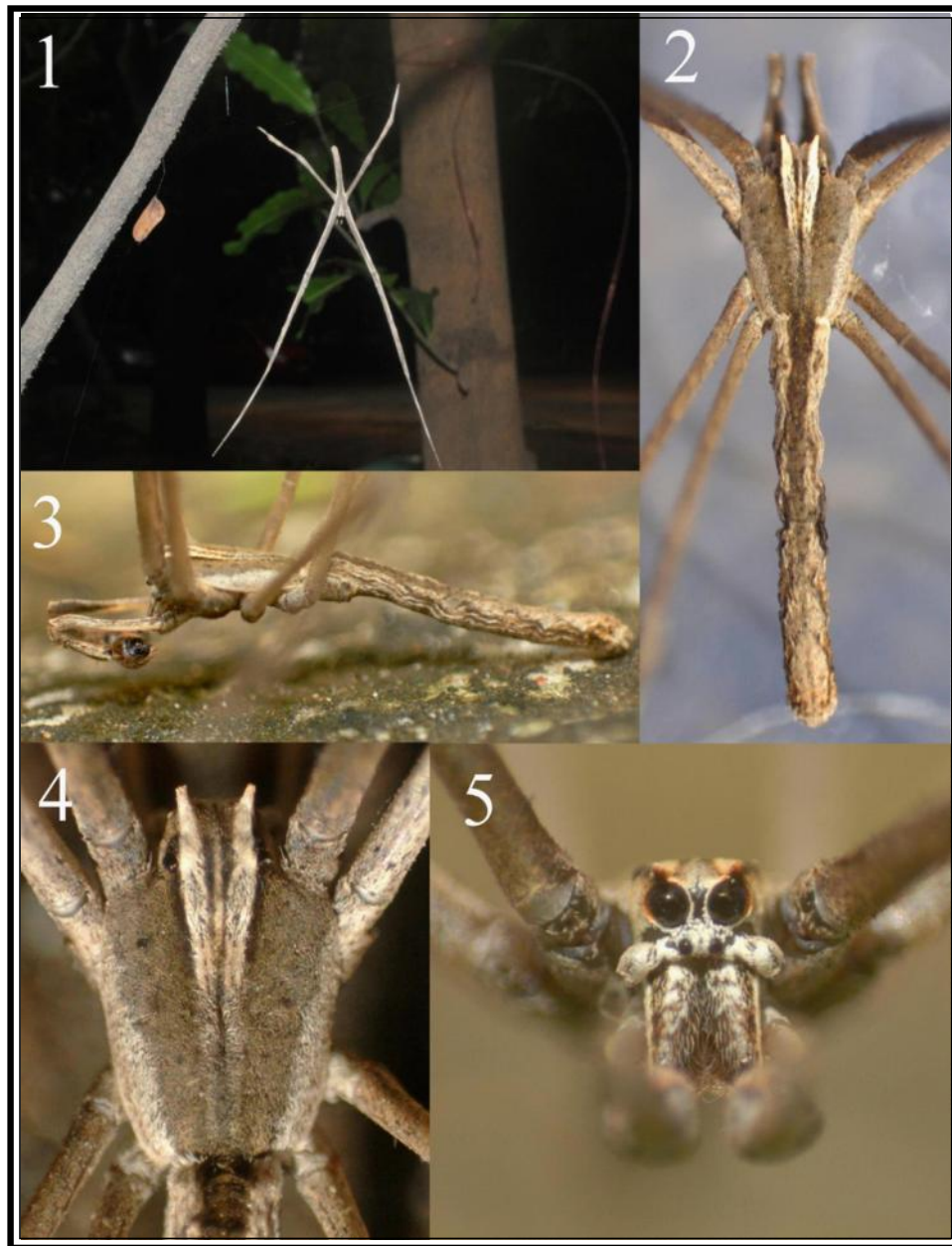
**Etymology:** The species name refers to the type locality being a ‘scrub jungle’

**Diagnosis:** Species resembles *D. cylindrica* Pocock however the male differs in embolus tip ending at the 2-3 o’clock position (whereas 11-12 o’clock in *D. cylindrica*), median hematodocha extends from 2-5 o’clock position in ventral view, median apophysis basal lobe axis lies at about 8 o’clock position (Fig.13, 17). Females differ in having a pair of smaller bumps on the abdomen, copulatory ducts with three and a half coils. (Fig. 16, 20)

### Description:

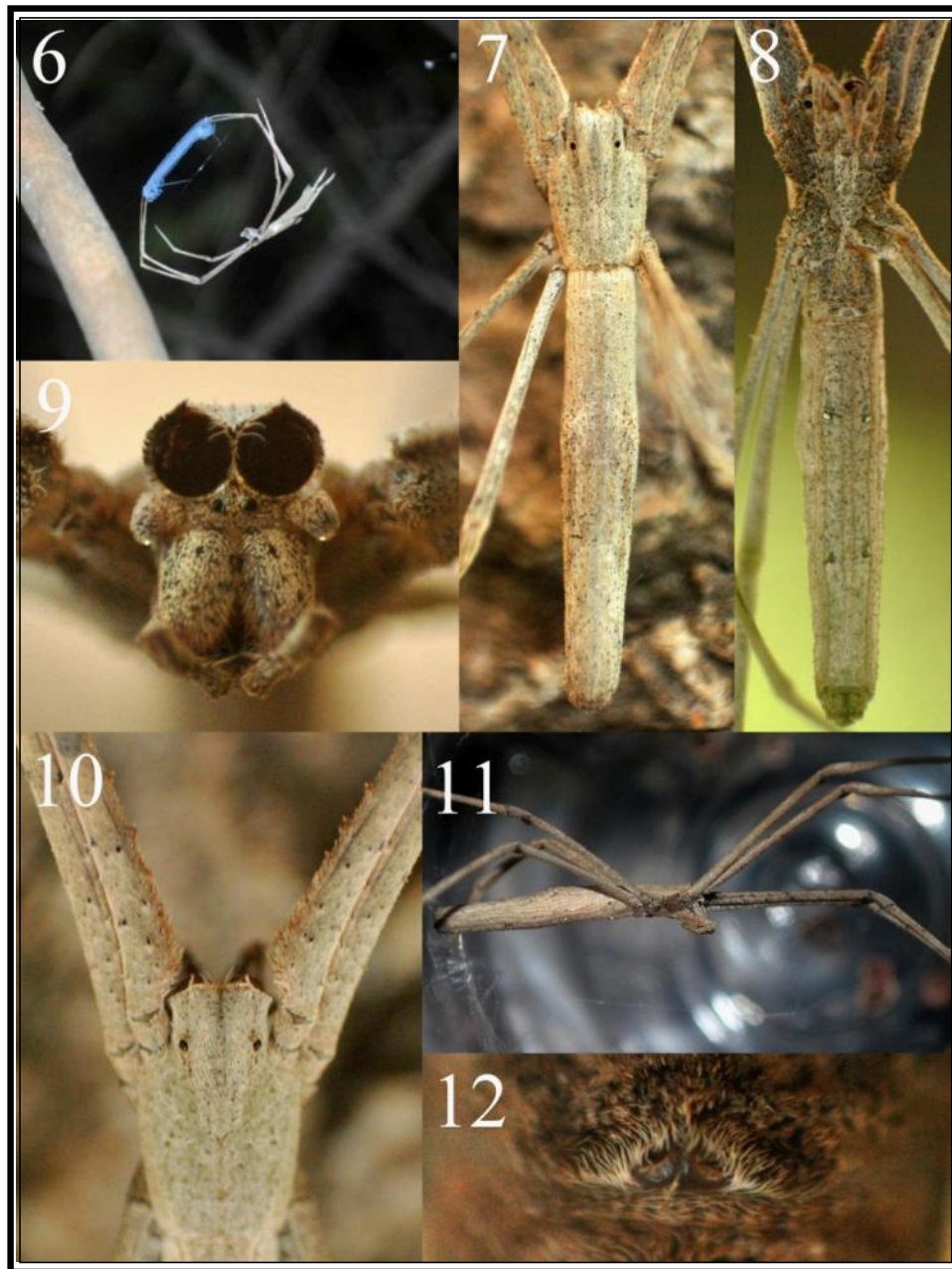
**Male:** total length: 12.14, carapace: 3.92 long, 2.74 wide; abdomen: 8.22 long, 1.30 wide. White horn like process protrude over the PME’s, patch extend backwards fade as they extend posteriorly with lateral patches of lighter grey (Fig. 2, 4). Eye measurements: AME 0.17, ALE 0.27, PME 0.48, PLE 0.25, AME-AME 0.18; AME-ALE 0.73; PME-PME 0.20; PME-PLE 0.44, MOA 0.81 long, anterior width 0.48, posterior width 1.20. AME : PME 1:2.8, carapace : abdomen 1:2.1. Chelicerae with 2 promarginal and 2 retromarginal teeth, sternum triangular with white median area extending from the base of the labium to the posterior region and grey lateral region. Leg measurements: I 54.77 (13.86, 1.95, 15.89, 18.14, 4.93); II 43.04 (14.52, 1.68, 11.60, 10.35, 4.89); III 30.06 (11.47, 1.59, 8.42, 7.17, 1.41); IV 30.18 (10.90, 1.60, 8.70, 7.68, 1.30). Abdomen long with a median dark brownish patch pointing posteriorly. Four lateral streaks radiate from the median dark patch (Fig. 2).

**Female:** total length: 17.58, carapace: 6.45 long, 3.97 wide; abdomen: 11.13 long, 3.23 wide. Eye measurements: AME 0.19, ALE 0.32, PME 1.16, PLE 0.34, AME-AME 0.29; AME-ALE 1.06; PME-PME 0.08; PME-PLE 1.24, MOA 1.18 long, anterior width 0.62, posterior width 2.38. AME : PME 1:6.1, carapace : abdomen



**Fig 1-5** *Deinopis scrubjunglei* sp.nov., 1 male habitus, 2 dorsal view, 3 lateral view, 4 carapace, 5 front view.

1:1.72. Clypeus height 0.47. (Fig. 9). Leg measurements: I 38.63 (12.85, 2.05, 10.47, 10.89, 2.37); II 36.83 (12.80, 2.11, 10.23, 9.28, 2.40); III 26.12 (9.07, 1.78, 6.97, 6.89, 1.41); IV 26.25 (9.12, 1.82, 7.25, 6.79, 1.27) Coloration pattern as in male but differs in the following, lacks the white patches behind PME's but short hairs protrude over making a small horn like process. General body color dull greyish. Chelicerae with 4 promarginal teeth and 7 retromarginal teeth; additional 5 small

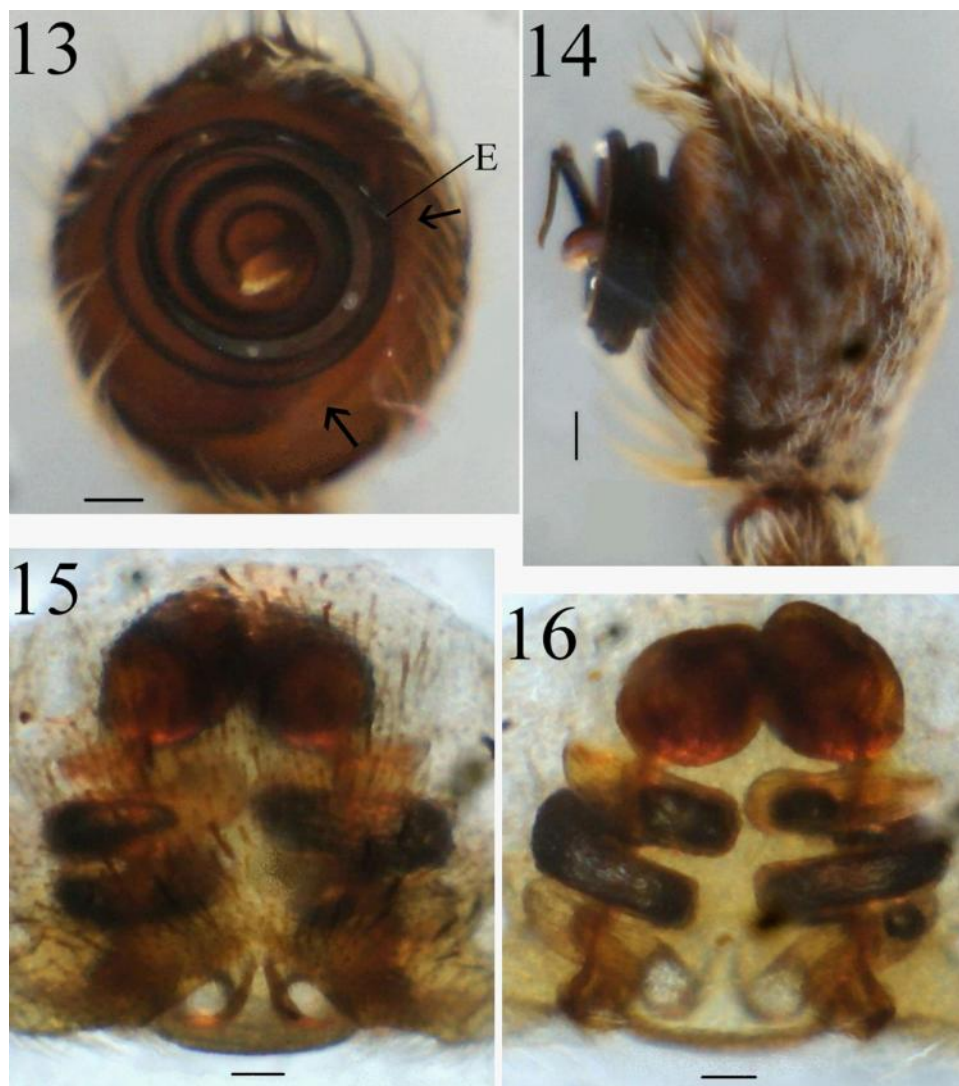


**Fig 6-12, *Deinopis scrubjunglei* sp.nov.,** 6 female habitus, 7 dorsal view, 8 ventral view, 9 frontal view, 10 carapace, 11 lateral view, 12 epigyne

denticles close to retromargin. Femur I with retro marginal enlargement distally. Abdomen with a pair of small lateral bumps just above the mid-region (Fig. 7). Inconspicuous epigyne (Fig. 12), triangular with a median septum, copulatory ducts make three and a half spirals leading to the anterior spermathecae (Fig. 15, 16, 19 & 20)

**Distribution:** Known heretofore from Chennai, Tamil Nadu, South India.

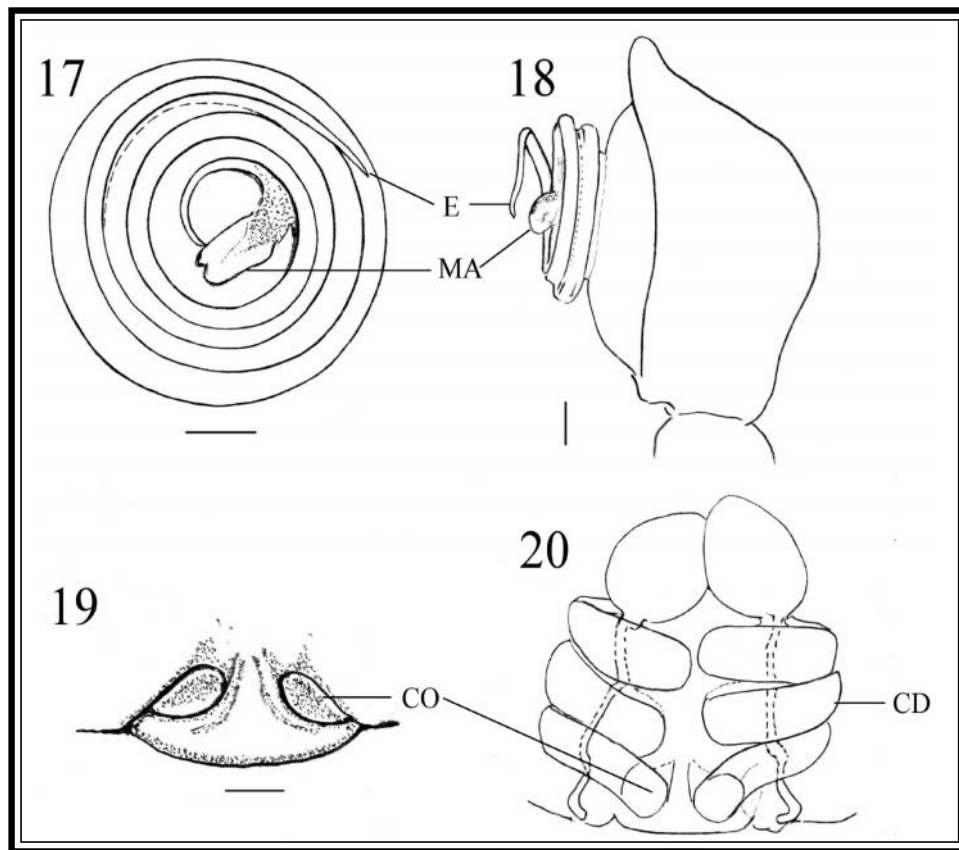




**Fig 13-16, *Deinopis scrubjunglei* sp.nov.,** 13 male palp ventral view, 14 palp retro-lateral view, 15 female epigyne, 16 dorsal view; arrows indicate extent of median hematodocha. Scale bars 0.1 mm

**Natural History:** Species is found in the scrub jungle vegetation hanging among the twigs (Fig. 1, 6). Both the male and female were found at hand reaching heights of about 6 to 7 feet above ground level in dry environment.

**Remarks:** Based on the drawings of *D. goalparaensis* Tikader and Malhotra, it is likely that it was described from a sub-adult female specimen. It also may be assumed that they must have used the biggest of the 4 specimens while describing *D. goalparaensis*. However, nothing much can be said on its status since the types were not examined and conclusion may be delayed until examination of mature specimens collected from the region.



**Fig 17-20, *Deinopis scrubjunglei* sp. nov.**, 17 male palp ventral view, 18 palp retro-lateral view, 19 female epigyne, 20 dorsal view. Scale bars 0.1 mm

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#### REFERENCES

- Coddington, J. A., Kuntner, M. and Opell, B. D. 2012.** Systematics of the spider family Deinopidae with a revision of the genus *Menneus*, *Smithsonian contribution to Zoology*, Smithsonian Institution scholarly press, No. 636, 61 pp.
- Leong, T. M. and Foo, S. K. 2009.** An encounter with the net casting spider, *Deinopis* species in Singapore (Araneae:Deinopidae), *Nature in Singapore*, 2: 247-255
- Paquin, P., Virk, C. J., Dupérré, N. 2010.** *Spiders of New Zealand: Annotated Family Key and Species List*. Lincoln, Manaaki Whenua Press. vii +118 pp.

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**Platnick N.I, 2014.** The World Spider Catalog, Version 14.5. American Museum of Natural history. Online at <http://research.amnh.org/iz/spiders/catalog/INTRO1.html> Accessed on 22nd April 2014.

**Tikader, B. K. and Malhotra, M. S. 1978.** A new record of rare spider of the family Dinopidae from India with description of a new species, *Proceedings of the Indian Academy of Sciences*, Vol 87B (Animal Sciences-2), No. 6, 157-159.